

absence of motility. The sum total of the study of this culture revealed a strain slightly different from any yet isolated, though it finds its place as one of the theoretical subgroups in several of the standard classifications. Pathogenicity for the mouse and guinea-pig was studied, with positive findings in these animals. Agglutination tests were made, using the serum of the patient, the serum of one of the inoculated guinea-pigs which had developed a subcutaneous abscess due to the organism in question and the serum of a normal individual. The serum of the patient and of the experimental animal had strong agglutinating power. The conclusion that the organism was the cause of the cystitis seems well substantiated. A very full list of bibliographical references is appended.

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## HYGIENE AND PUBLIC HEALTH

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UNDER THE CHARGE OF

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**Increase in Tuberculosis Emphasizes the Need of Food Education.**—The statement cabled from London that Germany is suffering an enormous increase in tuberculosis, mainly as the result of the restricted food supply, calls forth a warning from the Department of Health of New York City (*Weekly Bull., Dpt. of Health, City of New York*, December 29, 1917) that despite a much greater amount of food in this country a similar disastrous increase in tuberculosis and other diseases may occur here if the public does not take a greater interest in the science of nutrition. Statistics compiled by Dr. W. H. Guilfooy, the Health Department's Registrar of Records, show that the steady downward course of the deaths from tuberculosis has not only been arrested but that the number this year shows an actual increase over last year's figures. In view of the experience of the other warring nations, this is certainly disquieting. Inasmuch as tuberculosis is so intimately associated with undernourishment, special interest attaches to the report concerning the physical examination of school children. According to this, the number of undernourished school children in New York City is much greater than was heretofore suspected, for one-eighth of all the school children were found to be undernourished. On the basis of a million school children this represents the enormous number of 125,000 undernourished children. One-quarter of this number were so badly undernourished as to require medical care. The Department of Health has been much concerned about the great lack of even elementary knowledge among a large proportion of the people concerning the main facts of food and nutrition. For some years an

effort has been made to teach the people by means of posters, leaflets, food exhibits and demonstrations, but progress is slow. Classes of practical instruction in dietetics have been begun at some of the Baby Health Stations. This work is carried on by the nurses of the health stations, for they know the needs of the mothers in their district.

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**The Regulation of the Intestinal Flora through Diet.**—TORREY (*Jour. Med. Research*, January, 1919, p. 415) states that it is now well known that diet exercises a profound influence on the determination of the types of bacteria developing in the intestinal tract. In fact, under conditions of normal physiological functioning within the digestive tube it is the fundamental factor. The work of HERTER and KENDALL (*Jour. Biol. Chem.*, 1910, vii, 203) was the first to establish clearly this fact. Under normal physiological conditions the fundamental factor controlling the types of bacteria vegetating in the intestinal tract is the chemical character of the food ingested. Secondary controlling factors of almost equal weight are the rate and degree of the digestion and absorption of the food and the character of the end-products of the digestive process. It has been demonstrated experimentally in Torrey's investigation with dogs that, on the one hand, not all carbohydrates have an equal tendency to establish a purely fermentative intestinal flora, and, on the other hand, not all protein foods encourage putrefactive conditions in a like degree.

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**The Effect of Carbon Dioxide in the Cultivation of the Meningococcus.**—GATES (*Jour. Exper. Med.*, 1919, 4, xxix, 321) states that the meningococcus is not a "micro-aërophile." It grows equally well in atmospheres containing from 15 to 40 per cent. oxygen. If small amounts of carbon dioxide affect the growth of the meningococcus on an artificial medium it is by changing the reaction of the medium, not by slightly reducing the oxygen tension of the surrounding air. The fallibility of titrating the total acidity of a medium is again clearly demonstrated. A reaction favorable to the meningococcus cannot be determined from the total titratable acidity but depends solely upon the hydrogen ion concentration of the medium. The optimum for the meningococcus is approximately at pH 7.4. The value of a moist chamber in the cultivation of the meningococcus is shown by unusually luxuriant growth when other conditions are also favorable.

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**Pneumonia Following Influenza.**—McCALLUM (*Jour. Am. Med. Assn.*, 1919, lxxii, 720) states that the epidemic disease influenza resembles in many respects measles and other acute exanthematic diseases. Nothing is definitely known as to its causative agent. It produces great lowering of resistance to bacterial invasion and is therefore often followed by pneumonia caused by the different types of pneumococcus, Staphylococcus aureus, Streptococcus hemolyticus or the influenza bacillus of Pfeiffer. In some regions the influenza bacillus is a particularly common secondary invader. In other regions it is insignificant, its place being taken by one of the pneumococci. This may depend on an epidemic or endemic distribution of these organisms as inhabitants of the nasopharynx. The form of pneu-